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October 1, 1990

Daniel B. Ahern, Chief
Water Quality Standards
and Monitoring Section
U.S. Environmental Protection Agency
345 Courtland Street, N.E.
Atlanta, Georgia 30308

Dear Mr. Ahern:

I am submitting Kentucky's waterbody list developed pursuant to Section 303(d) of the Clean Water Act. The attached documentation provides details regarding our methodology and our proposed approach for TMDL development.

Please share this information with the appropriate Region IV staff. Contact me at 502/564-3410 if you have any questions.

Sincerely,

Robert W. Ware, Manager
Water Quality Branch
Division of Water

RWW:jbd

# SECTION 303(d) LIST OF WATERBODIES FOR KENTUCKY

Pursuant to Section 303(d) of the Clean Water Act, the State of Kentucky has developed a list of waterbodies presently not supporting applicable water quality standards (Tables 1A, 1B, and 1C). From this list, twenty waterbodies were selected as priority candidates for TMDL development (Table 2).

The list of waters not meeting water quality standards was derived primarily from the "1990 Kentucky Report to Congress on Water Quality" (Kentucky Natural Resources and Environmental Protection Cabinet, 1990) and "Assessment of Water Quality Conditions, Ohio River 1988-89" (ORSANCO, 1990). Monitored instream data were principally used; however evaluated data (site surveys, questionnaires, scientific reports, and professional judgement) were also considered in the determination of use support. A non-support use designation was based on greater than 25% of ambient water quality data( from October 1987 thru September 1989) exceeding a criterion, or the criterion being exceeded 11-15% of the time and with the mean greater than the numerical criterion. Special water quality monitoring studies conducted over shorter periods of time were also used to indicate use non-support. For biological data, a reach did not support uses if the biological community was severely altered (dominated by pollution tolerant species, very high or low biomass, other functional group

Table 1A

Section 303(d) List
Rivers and Streams

| STREAM NAME | WATERBODY ID NUMBER | WAH (MILES) | CAUSE | SOURCE | CAUSE | SOURCE | PCR (MILES) | CAUSE | SOURCE | CAUSE | SOURCE | CAUSE | SOU |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tug Fork - Mainstem | KY5070201-001 | 0.0 | 0 | 0 | 0 | 0 | 36.3 | 1700 | 200 | 0 | 1000 | 0 | |
| Tug Fork - Mainstem | KY5070201-004 | 0.0 | 0 | 0 | 0 | 0 | 21.6 | 1700 | 200 | 0 | 1000 | 0 | |
| Big Creek | KY5070201-005 | 19.7 | 1100 | 1000 | 0 | 5000 | 0.0 | 0 | 0 | 0 | 0 | 0 | |
| Knox Creek | KY5070201-010 | 0.0 | 0 | 0 | 0 | 0 | 7.6 | 1700 | 1000 | 0 | 0 | 0 | |
| Shelby Creek | KY5070202-002 | 0.0 | 0 | 0 | 0 | 0 | 10.0 | 1700 | 200 | 0 | 0 | 0 | |
| Russell Fork - Mainstem | KY5070202-004 | 0.0 | 0 | 0 | 0 | 0 | 16.0 | 1700 | 1000 | 0 | 200 | 0 | |
| Elkhorn Creek | KY5070202-005 | 0.0 | 0 | 0 | 0 | 0 | 27.4 | 1700 | 200 | 0 | 0 | 0 | |
| Paint Creek | KY5070203-005 | 0.0 | 0 | 0 | 0 | 0 | 1.0 | 1700 | 4000 | 0 | 0 | 0 | |
| Levisa Fork - Mainstem | KY5070203-010 | 0.0 | 0 | 0 | 0 | 0 | 13.0 | 1700 | 200 | 0 | 0 | 0 | |
| Left Fork Middle Creek | KY5070203-014 | 9.5 | 1000 | 5000 | 0 | 0 | 9.5 | 1000 | 5000 | 0 | 0 | 0 | |
| Levisa Fork - Mainstem | KY5070203-016 | 0.0 | 0 | 0 | 0 | 0 | 3.8 | 1700 | 200 | 0 | 1000 | 0 | |
| Beaver Creek | KY5070203-018 | 0.0 | 0 | 0 | 0 | 0 | 7.0 | 1700 | 200 | 0 | 0 | 0 | |
| Levisa Fork - Mainstem | KY5070203-021 | 0.0 | 0 | 0 | 0 | 0 | 28.5 | 1700 | 200 | 0 | 1000 | 0 | |
| Mud Creek | KY5070203-022 | 17.0 | 1200 | 1000 | 1100 | 5000 | 0.0 | 0 | 0 | 0 | 0 | 0 | |
| Blaine Creek - Mainstem | KY5070204-006 | 11.5 | 1300 | 5000 | 0 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | |
| Tygarts Creek - Mainstem | KY5090103-001 | 0.0 | 0 | 0 | 0 | 0 | 45.7 | 1700 | 200 | 0 | 1000 | 0 | |
| Little Sandy River - Mainstem | KY5090104-001 | 0.0 | 0 | 0 | 0 | 0 | 11.7 | 1700 | 1000 | 0 | 200 | 6700 | |
| Little Sandy River - Mainstem | KY5090104-004 | 0.0 | 0 | 0 | 0 | 0 | 39.3 | 1700 | 1000 | 0 | 200 | 6700 | |
| Newcombe Creek | KY5090104-009 | 6.9 | 1300 | 5000 | 0 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | |
| North Fork Licking River | KY5100101-012 | 0.0 | 0 | 0 | 0 | 0 | 13.9 | 1700 | 1000 | 0 | 0 | 0 | |
| North Fork Licking River | KY5100101-014 | 0.0 | 0 | 0 | 0 | 0 | 5.6 | 1700 | 1000 | 0 | 0 | 0 | |
| Licking River - Mainstem | KY5100101-034 | 6.4 | 1300 | 5000 | 0 | 0 | 6.4 | 1700 | 200 | 0 | 0 | 0 | |
| Lick Creek | KY5100101-037 | 9.2 | 1300 | 5000 | 0 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | |
| Raccoon Creek | KY5100101-037 | 5.2 | 1300 | 5000 | 0 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | |
| Burning Fork | KY5100101-038 | 7.5 | 1300 | 5000 | 0 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | |
| State Road Fork | KY5100101-038 | 5.1 | 1300 | 5000 | 0 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | |
| South Fork Licking River | KY5100102-008 | 0.0 | 0 | 0 | 0 | 0 | 14.8 | 1700 | 200 | 0 | 0 | 0 | |
| Indian Creek | KY5100102-009 | 0.0 | 0 | 0 | 0 | 0 | 0.6 | 1700 | 200 | 0 | 0 | 0 | |
| South Fork Licking River | KY5100102-010 | 0.0 | 0 | 0 | 0 | 0 | 15.3 | 1700 | 1000 | 0 | 4000 | 0 | |
| Stoner Creek - Mainstem | KY5100102-012 | 0.0 | 0 | 0 | 0 | 0 | 9.6 | 1700 | 1000 | 0 | 200 | 0 | |
| Houston Creek | KY5100102-013 | 0.0 | 0 | 0 | 0 | 0 | 19.0 | 1700 | 1000 | 0 | 0 | 0 | |
| Hancock Creek | KY5100102-017 | 0.0 | 0 | 0 | 0 | 0 | 7.6 | 1700 | 1000 | 0 | 0 | 0 | |
| Strodes Creek | KY5100102-017 | 0.0 | 0 | 0 | 0 | 0 | 26.5 | 1700 | 200 | 0 | 1000 | 0 | 4 |
| Hinkston Creek - Mainstem | KY5100102-024 | 0.0 | 0 | 0 | 0 | 0 | 19.8 | 1700 | 200 | 0 | 1000 | 0 | |
| North Fork Ky River - Mainstem | KY5100201-002 | 0.0 | 0 | 0 | 0 | 0 | 28.5 | 1700 | 200 | 0 | 4000 | 0 | |
| North Fork Ky River - Mainstem | KY5100201-005 | 0.0 | 0 | 0 | 0 | 0 | 17.6 | 1700 | 200 | 0 | 4000 | 0 | |
| Quicksand Creek | KY5100201-007 | 0.0 | 0 | 0 | 0 | 0 | 20.8 | 1700 | 1000 | 0 | 0 | 0 | |
| South Fork Quicksand Creek | KY5100201-007 | 0.0 | 0 | 0 | 0 | 0 | 13.8 | 1700 | 1000 | 0 | 0 | 0 | |
| Spring Fork | KY5100201-007 | 15.0 | 1100 | 5000 | 0 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | |
| Lost Creek | KY5100201-009 | 18.5 | 1100 | 5000 | 0 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | |
| Troublesome Creek | KY5100201-009 | 0.0 | 0 | 0 | 0 | 0 | 49.5 | 1700 | 200 | 0 | 6700 | 0 | |
| Rockhouse Creek | KY5100201-021 | 24.3 | 1100 | 5000 | 0 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | |
| Cutshin Creek | KY5100202-006 | 28.8 | 1900 | 5000 | 1100 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | |
| Raccoon Creek | KY5100202-008 | 7.3 | 1900 | 5000 | 1100 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | |
| Big Sinking Creek | KY5100204-009 | 14.1 | 1300 | 5000 | 0 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | |
| Bailey Fork | KY5100204-009 | 8.1 | 1300 | 5000 | 0 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | |
| Millers Creek | KY5100204-009 | 6.4 | 1300 | 5000 | 0 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | |

Table 1A

Section 303(d) List
Rivers and Streams

| STREAM NAME | WATERBODY ID NUMBER | WAH (MILES) | CAUSE | SOURCE | CAUSE | SOURCE | PCR (MILES) | CAUSE | SOURCE | CAUSE | SOURCE | CAUSE | SOUR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Red River - Mainstem | KY5100204-013 | 0.0 | 0 | 0 | 0 | 0 | 10.0 | 1700 | 200 | 0 | 0 | 0 | |
| Sand Lick Fork | KY5100204-018 | 5.0 | 1300 | 5000 | 0 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | |
| South Fork Red River | KY5100204-018 | 10.1 | 1300 | 5000 | 0 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | |
| North Elkhorn Creek - Mainstem | KY5100205-022 | 2.0 | 700 | 200 | 900 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | |
| South Elkhorn Creek - Mainstem | KY5100205-026 | 17.6 | 1200 | 200 | 500 | 4000 | 17.6 | 1700 | 200 | 0 | 4000 | 0 | |
| Lee Branch | KY5100205-027 | 1.0 | 1200 | 200 | 0 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | |
| Town Branch | KY5100205-028 | 11.3 | 1200 | 200 | 500 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | |
| Clarks Run | KY5100205-039 | 8.0 | 100 | 200 | 1200 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | |
| Brushy Fork | KY5100205-052 | 0.2 | 900 | 200 | 0 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | |
| Silver Creek | KY5100205-052 | 2.0 | 1200 | 200 | 900 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | |
| Bacon Creek | KY5110001-009 | 0.0 | 0 | 0 | 0 | 0 | 31.2 | 1700 | 1000 | 0 | 0 | 0 | |
| Nolin River - Mainstem | KY5110001-010 | 0.0 | 0 | 0 | 0 | 0 | 39.8 | 1700 | 200 | 0 | 0 | 0 | |
| Valley Creek | KY5110001-012 | 17.5 | 1200 | 200 | 1300 | 4000 | 0.0 | 0 | 0 | 0 | 0 | 0 | |
| Little Pittman Creek | KY5110001-026 | 12.9 | 1300 | 200 | 100 | 1000 | 0.0 | 0 | 0 | 0 | 0 | 0 | |
| Barren River - Mainstem | KY5110002-004 | 14.2 | 500 | 4000 | 0 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | |
| Drakes Creek | KY5110002-006 | 23.5 | 300 | 100 | 0 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | |
| West Fork Drakes Creek | KY5110002-007 | 23.4 | 300 | 100 | 0 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | |
| Pond Creek | KY5110003-003 | 23.8 | 1000 | 5000 | 500 | 5000 | 23.8 | 1000 | 5000 | 0 | 0 | 0 | |
| Mud River - Mainstem | KY5110003-005 | 24.7 | 300 | 100 | 0 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | |
| Mud River - Mainstem | KY5110003-008 | 40.0 | 300 | 100 | 0 | 0 | 34.2 | 1700 | 200 | 0 | 0 | 0 | |
| Town Branch | KY5110003-008 | 6.7 | 300 | 100 | 0 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | |
| Cypress Creek | KY5110006-002 | 33.3 | 1000 | 5000 | 0 | 0 | 33.3 | 1000 | 5000 | 0 | 0 | 0 | |
| Harris Branch | KY5110006-002 | 2.6 | 1000 | 5000 | 0 | 0 | 2.6 | 1000 | 5000 | 0 | 0 | 0 | |
| Flat Creek | KY5110006-005 | 10.6 | 1000 | 5000 | 0 | 0 | 10.6 | 1000 | 5000 | 0 | 0 | 0 | |
| Drakes Creek | KY5110006-006 | 21.3 | 1000 | 5000 | 0 | 0 | 21.3 | 1000 | 5000 | 0 | 0 | 0 | |
| Cumberland River - Mainstem | KY5130101-019 | 0.0 | 0 | 0 | 0 | 0 | 16.1 | 1700 | 200 | 0 | 6000 | 0 | |
| Cumberland River - Mainstem | KY5130101-025 | 0.0 | 0 | 0 | 0 | 0 | 25.3 | 1700 | 200 | 0 | 6000 | 0 | |
| Yellow Creek | KY5130101-031 | 0.0 | 0 | 0 | 0 | 0 | 9.5 | 1700 | 200 | 0 | 0 | 0 | |
| Cranks Creek | KY5130101-038 | 15.1 | 1100 | 5000 | 1000 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | |
| Big Lily Creek | KY5130103-011 | 2.6 | 1300 | 200 | 500 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | |
| Elk Spring Creek | KY5130103-018 | 1.5 | 1200 | 200 | 0 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | |
| Rock Creek | KY5130104-007 | 4.0 | 500 | 5000 | 1000 | 0 | 4.0 | 1000 | 5000 | 0 | 0 | 0 | |
| Roaring Paunch Creek | KY5130104-008 | 15.6 | 1300 | 5000 | 1100 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | |
| North Fork Little River | KY5130205-009 | 0.0 | 0 | 0 | 0 | 0 | 14.0 | 1700 | 1000 | 0 | 200 | 0 | |
| Elk Fork | KY5130206-002 | 7.0 | 1200 | 200 | 0 | 1000 | 0.0 | 0 | 0 | 0 | 0 | 0 | |
| Middle Fork Beargrass Creek | KY5140101-002 | 2.5 | 1200 | 4000 | 0 | 0 | 13.6 | 1700 | 4000 | 0 | 0 | 0 | |
| Muddy Fork Beargrass Creek | KY5140101-002 | 0.0 | 0 | 0 | 0 | 0 | 6.9 | 1700 | 200 | 0 | 0 | 0 | |
| South Fork Beargrass Creek | KY5140101-002 | 0.0 | 0 | 0 | 0 | 0 | 14.6 | 1700 | 4000 | 0 | 0 | 0 | |
| Goose Creek | KY5140101-003 | 0.0 | 0 | 0 | 0 | 0 | 12.2 | 1700 | 200 | 0 | 0 | 0 | |
| Little Goose Creek | KY5140101-003 | 0.0 | 0 | 0 | 0 | 0 | 8.7 | 1700 | 200 | 0 | 0 | 0 | |
| Harrods Creek | KY5140101-004 | 4.0 | 1200 | 200 | 900 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | |
| Brier Creek | KY5140102-002 | 5.7 | 1200 | 200 | 100 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | |
| Fishpool Creek | KY5140102-002 | 5.4 | 100 | 200 | 1200 | 0 | 5.4 | 1700 | 200 | 0 | 0 | 0 | |
| Knob Creek | KY5140102-002 | 15.3 | 100 | 200 | 1200 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | |
| Pond Creek | KY5140102-002 | 17.0 | 1200 | 200 | 500 | 0 | 17.0 | 1700 | 200 | 0 | 0 | 0 | |
| Mill Creek | KY5140102-003 | 0.0 | 0 | 0 | 0 | 0 | 13.5 | 1700 | 200 | 0 | 0 | 0 | |
| Salt River - Mainstem | KY5140102-005 | 0.0 | 0 | 0 | 0 | 0 | 13.8 | 1700 | 200 | 0 | 1000 | 0 | 4 |

Table 1A

Section 303(d) List
Rivers and Streams

| STREAM NAME | WATERBODY ID NUMBER | WAH (MILES) | CAUSE | SOURCE | CAUSE | SOURCE | PCR (MILES) | CAUSE | SOURCE | CAUSE | SOURCE | CAUSE | SOUR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Floyds Fork - Mainstem | KY5140102-007 | 24.2 | 1200 | 200 | 900 | 0 | 24.2 | 1700 | 200 | 0 | 0 | 0 | |
| Cedar Creek | KY5140102-008 | 15.2 | 1200 | 200 | 0 | 0 | 15.2 | 1700 | 200 | 0 | 0 | 0 | |
| Pennsylvania Run | KY5140102-008 | 0.0 | 0 | 0 | 0 | 0 | 3.0 | 1700 | 200 | 0 | 0 | 0 | |
| Brooks Run | KY5140102-009 | 6.0 | 1200 | 200 | 0 | 0 | 6.0 | 1700 | 200 | 0 | 0 | 0 | |
| Chenoweth Run | KY5140102-010 | 9.1 | 1200 | 200 | 0 | 0 | 9.1 | 1700 | 200 | 0 | 0 | 0 | |
| Floyds Fork - Mainstem | KY5140102-011 | 23.6 | 1200 | 200 | 900 | 0 | 23.6 | 1700 | 200 | 0 | 0 | 0 | |
| Floyds Fork - Mainstem | KY5140102-014 | 0.0 | 0 | 0 | 0 | 0 | 13.8 | 1700 | 200 | 0 | 0 | 0 | |
| Salt River - Mainstem | KY5140102-029 | 10.5 | 900 | 200 | 0 | 1000 | 0.0 | 0 | 0 | 0 | 0 | 0 | |
| Salt River - Mainstem | KY5140102-031 | 40.0 | 900 | 200 | 0 | 1000 | 0.0 | 0 | 0 | 0 | 0 | 0 | |
| Salt River - Mainstem | KY5140102-033 | 20.2 | 900 | 200 | 0 | 1000 | 0.0 | 0 | 0 | 0 | 0 | 0 | |
| Rolling Fork - Mainstem | KY5140103-001 | 0.0 | 0 | 0 | 0 | 0 | 20.2 | 1700 | 1000 | 0 | 200 | 0 | |
| Rolling Fork - Mainstem | KY5140103-005 | 0.0 | 0 | 0 | 0 | 0 | 87.8 | 1700 | 1000 | 0 | 200 | 0 | |
| Crab Orchard Creek | KY5140205-003 | 22.6 | 1000 | 5000 | 1100 | 1000 | 22.6 | 1000 | 5000 | 0 | 0 | 0 | |
| Clear Creek | KY5140205-008 | 28.1 | 1000 | 5000 | 1100 | 1000 | 28.1 | 1000 | 5000 | 0 | 0 | 0 | |
| Lick Creek | KY5140205-008 | 18.1 | 1000 | 5000 | 1100 | 1000 | 18.1 | 1000 | 5000 | 0 | 0 | 0 | |
| Cany Creek | KY5140205-015 | 11.3 | 1000 | 5000 | 1100 | 1000 | 11.3 | 1000 | 5000 | 0 | 0 | 0 | |
| Buffalo Creek | KY5140205-016 | 7.8 | 1000 | 5000 | 1100 | 1000 | 7.8 | 1000 | 5000 | 0 | 0 | 0 | |
| Little Bayou Creek | KY5140206-002 | 6.5 | 300 | 6600 | 0 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | |
| Cypress Creek | KY6040006-013 | 19.4 | 100 | 100 | 300 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | |
| Mayfield Creek - Mainstem | KY8010201-004 | 0.0 | 0 | 0 | 0 | 0 | 31.8 | 1700 | 1000 | 0 | 200 | 0 | |
| *** Total *** | | 890.5 | | | | | 1269.3 | | | | | | |

## Cause Codes

0100 - Unknown toxicity
0300 - Priority organics
0500 - Metals
0700 - Chlorine
0900 - Nutrients
1000 - pH
1100 - Siltation
1200 - Organic enrichment/DO
1300 - Salinity/TDS/chlorides
1700 - Pathogens
1900 - Oil and grease
0 - Not applicable

## Source Codes

0100 - Industrial point source
0200 - Municipal point sources
1000 - Agriculture
4000 - Urban runoff/storm sewers
5000 - Resource extraction
6000 - Land disposal
6600 - Hazardous waste
6700 - Septage disposal
0 - Not applicable

WAH - Warmwater Aquatic Habitat
PCR - Primary Contact Recreation

**Table 1B**
**Section 303(d) List**
**Ohio River[a]**

| STREAM NAME | WATERBODY ID NUMBER | PCR (MILES) | CAUSE | SOURCE | SOURCE |
|---|---|---|---|---|---|
| Ohio River | ORWB 16 | 23.9 | 1700 | 0200 | 0400 |
| Ohio River | ORWB 17 | 15.5 | 1700 | 0200 | 0400 |
| Ohio River | ORWB 18 | 79.7 | 1700 | 0200 | 0400 |
| Ohio River | ORWB 19 | 27.9 | 1700 | 0200 | 0400 |
| Ohio River | ORWB 20 | 6.1 | 1700 | 0200 | 0400 |
| Ohio River | ORWB 21 | 20.9 | 1700 | 0200 | 0400 |
| Ohio River | ORWB 22 | 40.4 | 1700 | 0200 | 0400 |
| Ohio River | ORWB 24 | 11.0 | 1700 | 0200 | 0400 |
| Ohio River | ORWB 25 | 23.1 | 1700 | 0200 | 0400 |

**Cause Code**

1700 - Pathogens

**Source Codes**

0200 - Municipal point sources
0400 - Combined sewer overflows

PCR - Primary Contact Recreation

[a]Source: ORSANCO (1990)

**Table 1C**
**Section 303(d) List**
**Lakes**

| LAKE NAME | WATERBODY ID NUMBER | WAH (ACRES) | CAUSE | SOURCE | CAUSE | SOURCE | DWS (ACRES) | CAUSE | SOURCE | CAUSE | SOURCE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Corbin | KY5130101-006L01 | 0.0 | 0 | 0 | 0 | 0 | 139 | 0900 | 0200 | 0 | 1000 |
| Jericho | KY5140101-006L01 | 137 | 0900 | 1000 | 0 | 0 | 0.0 | 0 | 0 | 0 | 0 |
| Loch Mary | KY5140205-008L02 | 0.0 | 0 | 0 | 0 | 0 | 135 | 0900 | 5000 | 0800 | 0 |
| Reformatory | KY5140101-004L01 | 54 | 0900 | 1000 | 0 | 0 | 0.0 | 0 | 0 | 0 | 0 |
| Sympson | KY 5140103-001L01 | 0.0 | 0 | 0 | 0 | 0 | 184 | 0900 | 1000 | 0 | 0 |
| Taylorsville | KY5140102-025 | 3,050 | 0900 | 0200 | 0 | 1000 | 0.0 | 0 | 0 | 0 | 0 |



**Cause Code**

0900 - Nutrients
0 - Not applicable

**Source Codes**

0200 - Municipal point sources
0800 - Other inorganics
1000 - Agriculture
5000 - Resource extraction
0 - Not applicable

WAH - Warmwater Aquatic Habitat
DWS - Domestic Water Supply

**Table 2**
**Section 303(d) List of Waterbodies**
**Priority Candidates for TMDL Development**

| WATERBODY NAME | WATERBODY ID NUMBER | MILES (ACRES) |
|---|---|---|
| Blaine Creek - Mainstem | KY5070204-006 | 11.5 |
| Newcombe Creek | KY5090104-009 | 6.9 |
| Licking River - Mainstem | KY5100101-034 | 6.4 |
| Lick Creek | KY5100101-037 | 9.2 |
| Raccoon Creek | KY5100101-037 | 5.2 |
| Burning Fork | KY5100101-038 | 7.5 |
| State Road Fork | KY5100101-038 | 5.1 |
| Big Sinking Creek | KY5100204-009 | 14.1 |
| Billey Fork | KY5100204-009 | 8.1 |
| Millers Creek | KY5100204-009 | 6.4 |
| Sand Lick Fork | KY5100204-018 | 5.0 |
| South Fork Red River | KY5100204-018 | 10.1 |
| Roaring Paunch Creek | KY5130104-008 | 15.6 |
| Harrod's Creek | KY5140101-004 | 4.0 |
| Floyds Fork | KY5140102-007 | 24.2 |
| Floyds Fork | KY5140102-011 | 23.6 |
| Salt River | KY5140102-029 | 10.5 |
| Salt River | KY5140102-031 | 40.0 |
| Salt River | KY5140102-033 | 20.2 |
| Taylorsville Lake | KY5140102-025 | (3,050) |

alterations) or habitat characteristics were severely reduced or eliminated. Where both physicochemical and biological data were available, the latter were generally the predominant factor for assessing aquatic life use support status.

Monitoring data generated since the 1990 305(b) Report resulted in the listing of additional segments. Harrods Creek and an expanded reach of Floyds Fork in Jefferson County were included because of documented stream impacts caused by numerous domestic wastewater treatment plants. Additional segments of the Salt River above Taylorsville Lake were included because of nutrient loading from point and nonpoint sources in the watershed.

It is evident from the sources of non-support listed in Tables 1A and 1C that many waterbodies are listed because of nonpoint source contributions. This is partly due to actual instream conditions, but is also an indication of the type of data that were used. Data collected monthly from the ambient station network are not likely to point out instream problems below specific discharges during periods of low flow. Very little data would have been collected during critical low flow periods, and then usually not directly below a discharge. To evaluate the impact of point source discharges, it would be necessary to take existing discharge data, and using either actual or critical flow, estimate instream

impacts. The recent 304(l) short list reflects priority pollutant problems from point source discharges, using theoretical instream conditions derived from calculated critical low flow and actual discharge monitoring data.

Tables 1A, 1B, and 1C indicate that municipal and package sewage treatment plants are significant sources of pollutants causing use nonsupport. These point source problems are usually not the result of insufficient permits, but of wastewaters exceeding permit limits or, in the case of sewage treatment plants, bypasses occurring during periods of equipment failure or heavy rainfall. Kentucky has written water quality-based KPDES permits since it received primacy in the NPDES program in 1983. Permit limits have become more stringent and have included more parameters as water quality standards have been revised. Permit limits are now derived from the most stringent of aquatic life, human health, recreation, or technology-based criteria. The recently completed 304(l) lists identified point source problems with priority pollutants. As a result of this work, several permits were revoked and reissued prior to their normal 5-year schedule in order to satisfy the 304(l) schedule requirements. The compliance/enforcement component of the regulatory process must ensure that water quality problems do not occur as a result of

inadequate maintenance and/or treatment operations at the permitted facilities. However, Kentucky will investigate the waterbodies shown in Table 2 impacted by point source pollution to ensure that appropriate permit limits are in place.

Kentucky has developed and is implementing a strategy to assess the needs and opportunities to reduce small point-source sewage dischargers in the state. The state has a large number of these "package" plants. Nonpoint source contamination from on-site treatment systems (principally septic tanks) is also being reviewed. These discharges affect both surface and groundwater quality. Location, age, physical condition, capacity, operating performance, enforcement history, discharge elimination possibility, and environmental impact are among the categories of information being compiled for existing facilities. Kentucky is attempting to reduce the number of such dischargers and pollution sources by requiring connection to available comprehensive public sewer systems, or by seeking the development of a regional scheme.

Coal mining accounted for numerous stream segments not meeting aquatic life and/or recreational uses because of pH violations and for one lake not meeting the domestic water supply use because of high levels of iron. In the past, these problems were not addressed by regulatory mechanisms. However, recent regulations passed by Kentucky on remining may help to reduce contaminated

runoff from some abandoned mine areas. These regulations will allow new mining activities in previously mined areas to be exempted from certain water quality criteria as long as there is a good potential that the quality of waters emanating from these areas will be improved.

Agricultural activities were reported to be a contributing source of water quality standards excursions in many waterbodies. Kentucky's Nonpoint Source (NPS) program is prioritizing streams that have been identified as impacted by nonpoint sources, especially problems resulting from agricultural activities. Watersheds will be targeted for cost-shared best management practice (BMP) studies to evaluate the effectiveness of implementing pollution control measures. Presently, this kind of BMP cost-sharing activity is only implemented for agricultural projects with the cooperation of the United States Department of Agriculture (USDA). While it is possible that in the near future some type of demonstration project will be undertaken for other nonpoint source activities, such as silviculture or construction, under the current program education and voluntary measures are the primary means of controlling nonpoint source pollution. A NPS regulatory program will only be implemented if voluntary measures fail to be effective and appropriate legislation is passed.

Another category of pollution source for which there exist few controls is combined sewer overflows (CSOs). In their assessment of the Ohio River, ORSANCO (1990) identified every water quality monitoring station in or adjacent to Kentucky, except Evansville, as not meeting contact recreation bacteria criteria in 1989, a year in which flows were higher than average. For the 2-year reporting period, 248.5 miles of the Ohio River bordering Kentucky did not meet the recreational use. This was presumed to be mainly caused by CSOs from communities along both sides of the Ohio River. There are also some sewer overflows discharging raw sewage to the river that occur even during dry conditions because of system malfunctions or high river stages that cause some of the older sewage collection systems (constructed prior to the advent of the high-lift dams) to be bypassed. Kentucky will be taking steps to require cities to identify overflow points and conditions that result in overflows. The next logical step will be to apply all practicable controls to prevent the CSOs without construction of costly new collection systems or complete segregation of the old collection systems.

The waterbodies listed in Table 2 represent those waterbodies that will be considered as the highest priority for TMDL development. This prioritization is not based on an assessment of relative water quality impairment, but, rather, reflects Kentucky's opinion that the cause and source of contamination in these waterbodies are more logically addressed by the TMDL concept than

the other waterbodies. TMDLs for chloride will be used to control impacts from oil and gas production facilities in the first 13 streams in Table 2. Kentucky's WLA modeling procedure will generate appropriate TMDLs for limiting the number of sewage treatment plants to be permitted in the highly developed segments of Harrods Creek and Floyds Fork, near Louisville. Additional monitoring data will be needed to set TMDLs for nutrients in the Salt River basin above Taylorsville Lake and to develop appropriate point and nonpoint source control strategies. Expansion of the existing monitoring program is being evaluated.

The development of TMDLs for the remaining waterbodies will depend upon the resolution of technical issues related to the implementation of TMDLs. Kentucky encourages EPA to address this problem through the development of appropriate protocols and national guidance.